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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,070	07/21/2003	Dale M. Pickelman	DKT02152 (BWA 0245 PA)	7632
53834	7590	04/21/2006	EXAMINER	
BORGWARNER INC. 3850 HAMLIN ROAD AUBURN HILLS, MI 48326-2872			BONCK, RODNEY H	
			ART UNIT	PAPER NUMBER
			3681	
DATE MAILED: 04/21/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/624,070	PICKELMAN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Rodney H. Bonck	3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 is/are allowed.
- 6) ☒ Claim(s) 1-11, 13, 14, 19-21 and 23-28 is/are rejected.
- 7) ☒ Claim(s) 12, 15, 17, 18, 22, 29 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

The following action is in response to the amendment received March 9, 2006.

### ***Drawings***

The replacement sheet of drawings was received on March 9, 2006. These drawings are approved by the examiner.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5-11, 13, 14, 19-21, 23, 24, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens et al.('202) in view of Spokas('393). The Stevens et al. device is a hydraulically controlled drive system including a housing assembly 32,34 containing a hydraulic fluid, an engaging circuit coupled with the housing assembly and comprising a first pitot tube 104 coupled with the housing and receiving at least a portion of the fluid. The engaging circuit engages the housing assembly to a shaft 12 in response to supply of hydraulic fluid from Pitot tube 104. The engaging circuit further includes a clutch plate assembly 70,72 coupled to the housing assembly 32,34 and the shaft 12 and a piston 92. A drum houses the clutch plates of the clutch plate assembly and the Pitot tube supplies apply pressure to the piston to engage the clutch plate assembly. In Stevens et al. a return assembly is provided at 98. The valve arrangement at 152 provides the claimed fluid flow controller. The device of Stevens et al. can be considered a fan drive system in that a fan is attached to the hosing of the Stevens et al. device. The shaft 12 of Steven et al. is not disclosed as being a fan shaft of an engine cooling fan, as now claimed, but is clearly capable of being used to drive a fan or other accessory. It is known to drive an engine cooling fan using a hydraulically controlled multi-plate clutch, as shown by Spokas. It would have been obvious to drive an engine cooling fan using the clutch of Stevens et al., the motivation being to provide a drive arrangement permitting selective coupling of the fan to the housing as needed. The fluid flow controller in Stevens et al. would remain in position when no power is applied. Thus it can remain in a closed state. Using the Stevens et al. device would inherently involve performing the steps called for in claim

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24. The Stevens et al. device does not include a controller that provides a cooling signal. Spokas, however, shows a hydraulically actuated fan clutch for engine cooling and includes a device 126 for providing a cooling signal to control fluid flow. It would have been obvious to use the Stevens et al. device as a cooling fan drive and to provide an arrangement for providing a cooling signal to control fluid flow in Steven et al., the motivation being to provide fan clutch engagement only when needed. Note that Spokas also teaches providing a pressure relief valve at 100.

Claims 4, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens et al.('202) in view of Spokas('393) as applied to claims 1-3, 5-11, 13, 14, 19-21, 23, 24, 27, and 28 above, and further in view of Matson('986). The Stevens et al. device does not appear to show cooling fins on the housing assembly. Matson discloses a clutch assembly that includes a housing assembly enclosing the clutch. The housing assembly includes cooling fins 50,51. It would have been obvious to provide cooling fins on the housing assembly of Stevens et al., the motivation being to improve the dissipation of heat generated in the clutch assembly. Matson also teaches providing a pitot tube for providing lubrication pressure to the clutch assembly. The fluid circulating in the engaging circuit of Stevens et al. would inherently assist in cooling the device, particularly in conjunction the cooling fins taught by Matson.

***Allowable Subject Matter***

Claim 16 is allowed.

Claims 12, 15, 17, 18, 22, 29, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Amendment***

The replacement sheet of drawing overcomes the objection to the drawing set forth in the previous Office action. Accordingly, the objection is withdrawn.

***Response to Arguments***

Applicants' arguments filed March 9, 2006 have been fully considered but they are not persuasive. The claims have been amended to require that the shaft is a fan shaft of an engine cooling fan. The intended use of the Stevens et al. clutch is to drive a helicopter blade, but it is clearly capable of driving any number of rotatable devices. As Spokas('393) and several other several other prior art devices of record show, it is known to drive an engine cooling fan with a hydraulic, multi-plate clutch. Thus using the Stevens et al. clutch to drive an engine cooling fan would not distinguish over the prior art.

Applicants also appear to argue that the Matson('986) is non-analogous art. The examiner disagrees. Matson is applied for its showing of cooling fins on the outside of a clutch housing. The use of fins on a housing to exchange heat from the housing with

the environment has long been known in the clutch art. Providing heat exchanging fins on the housing of Stevens et al. would not be a patentable modification. Matson is one example of this known use of cooling fins and is applicable for this teaching.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney H. Bonck whose telephone number is (571) 272-7089. The examiner can normally be reached on Monday-Friday 7:00AM - 3:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rodney H. Bonck  
Primary Examiner  
Art Unit 3681

rhb  
April 17, 2006



## REPLACEMENT SHEET

**Application No. 10/624,070**

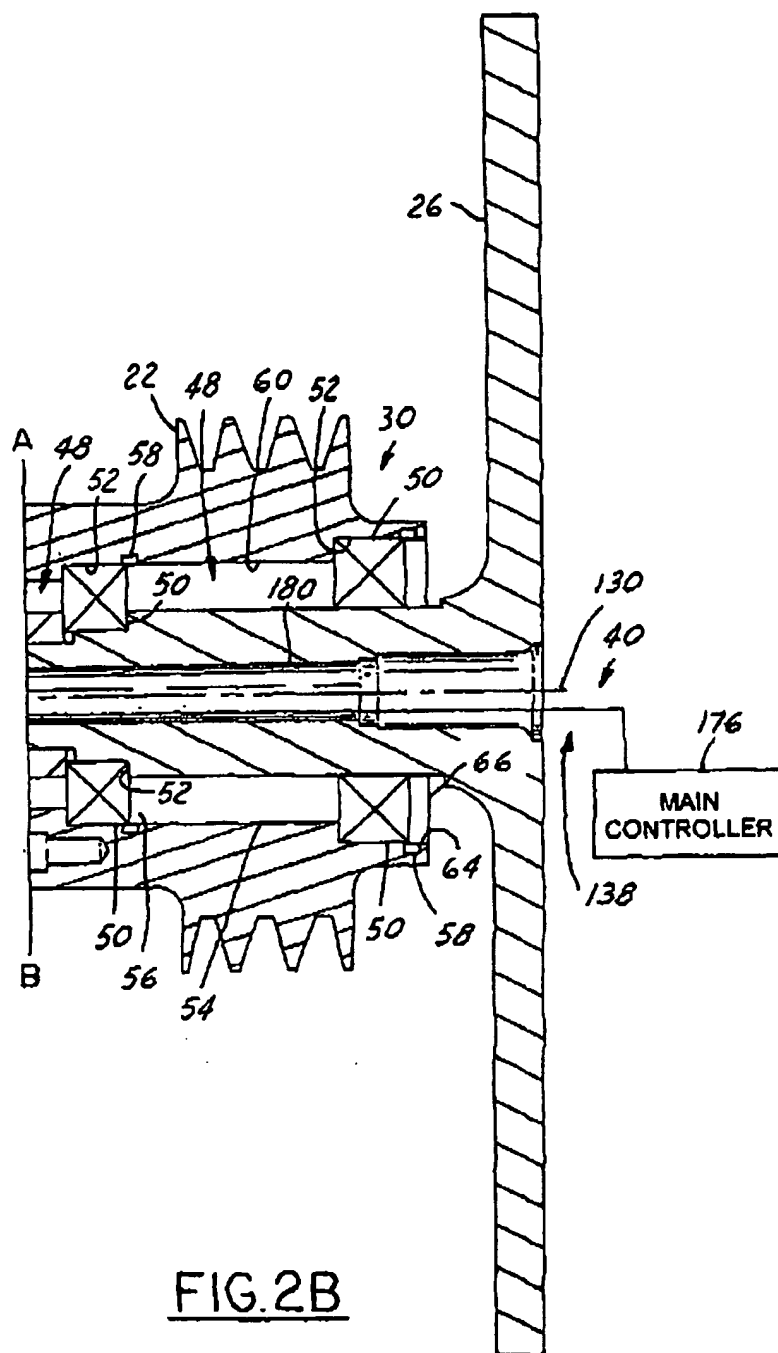


FIG. 2B